

## CLAIMS:

1. Support comprising two essentially parallel surfaces for the detection of optically-active substances within an evanescent-field formed on the surface of the support, in which in at least one area a plane of said surface is inclined with respect to the plane of the support by an angle  $\alpha_{\text{wedge}}$  from 10° to 85°.
- 5 2. Support according to claim 1, comprising at least 10, preferably at least 100 areas.
3. Support according to claim 1 or 2, wherein said surface, at which the  
10 detection of the optically-active substances takes place is covered by a top plate.
4. Support according to one of claims 1 to 3, wherein  $\alpha_{\text{wedge}}$  is between 15° and 75°, preferably between 25° and 65°.
- 15 5. Support according to one of claims 1 to 4, wherein the refractive index of the support ( $n_{\text{support}}$ ) is larger than 1.0 and smaller than 2.0, preferably between about 1.4 and 1.8.
6. Support according to one of claims 1 to 5, wherein within the area on  
20 said surface a second plane of the surface adjacent to the first inclined plane is inclined in such that a symmetrical pyramidal structure is formed.
7. Support according to one of claims 1 to 6, wherein at least one capture probe is attached to the surface of the inclined plane.

8. Support according to one of claims 1 to 7, wherein the capture probe is selected from the group comprising proteins, in particular antibodies, receptors, enzymes, signaling proteins or fragments thereof; peptides; polysaccharides, nucleic acids, in particular ssDNA, dsDNA and RNA; nucleic acid analogs, in particular PNA; and small molecules.
9. Support according to one of claims 1 to 8, wherein the support further comprises reagents and/or buffers.
10. Support according to one of claims 1 to 9, wherein the support is an optical disc.
11. Kit comprising a support according to claims 1 to 10 and reagents and/or buffers.
12. Device for the detection of optically-active substances within the evanescent-field formed at the surface of a support comprising: a) at least one light source emitting essentially monochromatic light of at least one wavelength, and b) at least one detector means, wherein the at least one light source is arranged in such that it is opposite to the surface of a support, where the detection of the optically-active substance occurs once the support is placed into the device.
13. Device according to claim 12, wherein the detector means is arranged on the same side as the light source.
14. Device according to one of claims 12 to 13, wherein the light source generates essentially monochromatic light.
15. Device according to one of claims 12 to 14, comprising at least two light sources generating essentially monochromatic light of at least two different wavelengths.

16. Device according to one of claims 12 to 15, wherein a filter is arranged within the light path of the light source.
- 5 17. Device according to one of claims 12 to 15, wherein an objective lens is used to focus the light of the light source on the support.
18. Device according to claim 17, wherein a mask is placed in the light path between the light source and the mask, which essentially blocks all light directed at the  
10 support with an angle  $\alpha_{NA}$  smaller than  $\arcsin(n_{\text{medium}}/n_{\text{support}}) - \alpha_{\text{wedge}}$ .
19. Device according to one of claims 12 to 18, wherein the device further comprises a support according to one of claims 1 to 10.
- 15 20. Device according to claim 19, wherein the support is an optical disc.
21. Device according to claims 19 or 20, wherein the wavelength of the light emitted from the light source, the angle  $\alpha_{\text{wedge}}$  of the inclined plane(s) of the surface of the support  $\alpha_{NA}$  of the light directed at the disc,  $n_{\text{support}}$  and  $n_{\text{medium}}$  is (are) selected in  
20 such that the depth  $d$  of an evanescent-field, which is formed in a medium comprising the optically active substance applied to the support is between 10 nm and 1  $\mu\text{m}$ , preferably between about 20 nm and 200 nm.
22. Use of a support according to one of claims 1 to 10, a kit according to  
25 claim 11, and/or of a device according to one of claims 12 to 21 for the detection of at least one optically-active substance within the evanescent-field formed at a surface of the support.
23. Use according to claim 22, wherein the optically-active substance is  
30 detected by fluorescence, optical scattering, and/or reflectance modulation.

24. Use according to claim 22 or 23, wherein the optically-active substance comprises a ligand labeled with a fluorescence label, a scattering label, and/or a reflectance modulator.
- 5 25. Use according to one of claims 22 to 24, wherein the optically-active substance or the ligand is contained in blood, urine, sperm, vaginal secretion, stool, sputum, tissue, single cells, lymph and/or the contents of the gastrointestinal tract or derived thereof.
- 10 26. Use according to one of claims 22 to 25, wherein the binding or unbinding of the optically-active substance to the surface of the support is detected.